

A. AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS:

1. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine to include the attachment of a zipper to a package formed thereby, in which said packaging machine includes:

a frame;

a forming station mounted on said frame and having a forming die functioning cooperatively with a first lift station to form product-receiving cavities in a lower web of packaging film;

a product filling station;

a sealing station mounted on said frame and having a sealing die, functioning during a sealing cycle, cooperatively with a second lift station to seal packages with an upper web of packaging film; and,

means for conveying said lower web and said upper web of packaging films along said frame from an input side to an output side;

wherein said conversion kit comprises:

a zipper blank feed means for providing between said lower web and said upper web of packaging films a zipper blank to said sealing station;

a sealing and channel-forming die assembly providing a pathway therethrough for said zipper blank, said pathway passing between

said lower web and said upper web of packaging films, said sealing and channel-forming die assembly further comprises in turn further comprising;

spring means in cooperative functional relationship with said second lift station for raising said lower web of packaging film at said impulse sealer above the level of said lower web of packaging film at said sealing die;

an impulse sealer in said channel-forming die for longitudinally sealing together, upon introduction of said zipper blank into said pathway, said zipper blank, said lower web of packaging film, and said upper web of packaging film; and,

a zipper weld station mounted on said frame adjacent said sealing die, said zipper weld station longitudinally welding said upper web of packaging film to said zipper blank and said lower web of packaging film to said zipper blank and for transversely welding together the ends of said zipper, said lower web of packaging film, and said upper web of packaging film;

whereby said horizontal FFS packaging machine is modified to install zippers on packages produced thereby without an additional lift station therefor.

2. Please cancel Claim 2.

3. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~20~~ 1 wherein said packaging film at said impulse sealer is lifted 5 ~~mm~~ mm above the level of said packaging films at said sealing die.

4. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~19~~ 1 wherein said channel-forming die further comprises:

a chiller for dissipating thermal energy generated by impulse sealing and maintaining the zipper blank free from thermal shock during installation thereof.

5. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~22~~ 4 wherein the zipper blank returns to ambient room temperature within one minute of impulse sealing.

6. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~23~~ 5 wherein the zipper blank returns to ambient room temperature within 20 seconds of impulse sealing.

7. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~22~~ 4 wherein

said chiller further comprises a thermal medium maintained at a temperature of $65^{\circ} \pm 15^{\circ}$ F.

8. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~25~~ 7 wherein said thermal medium is recirculating cooling water.

9. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~19~~ 11 wherein said packaging machine is a vacuum packaging machine having, during dwell time at said sealing station, an evacuation and sealing cycle concurrent with which the zipper blank is longitudinally sealed.

10. **(First Amended)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim ~~19~~ 11 wherein said packaging machine is a modified atmosphere packaging machine having an atmosphere modification cycle wherein the zipper blank installation is concurrent with the atmosphere modification cycle thereof.

11. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine to include the attachment of a zipper to a package formed thereby, in which said packaging machine includes:

a frame;

a forming station mounted on said frame and having a forming die functioning cooperatively with a first lift station to form product-receiving cavities in a lower web of packaging film;

a product filling station;

a sealing station mounted on said frame and having a sealing die, functioning during a sealing cycle, cooperatively with a second lift station to seal packages with an upper web of packaging film; and,

means for conveying said lower web and said upper web of packaging films along said frame from an input side to an output side;

wherein said conversion kit comprises:

a zipper blank feed means for providing between said lower web and said upper web of packaging films a zipper blank to said sealing station;

a sealing and channel-forming die assembly providing a pathway therethrough for said zipper blank, said pathway passing between said lower web and said upper web of packaging films, further comprising, in turn;

a chiller for dissipating thermal energy generated by impulse sealing and maintaining the zipper blank free from thermal shock during installation thereof.

an impulse sealer in said channel-forming die for longitudinally sealing together, upon introduction of said zipper

blank into said pathway, said zipper blank, said lower web of packaging film, and said upper web of packaging film; and,

a zipper weld station mounted on said frame adjacent said sealing die, said zipper weld station longitudinally welding said upper web of packaging film to said zipper blank and said lower web of packaging film to said zipper blank and for transversely welding together the ends of said zipper, said lower web of packaging film, and said upper web of packaging film;

whereby said horizontal FFS packaging machine is modified to install zippers on packages produced thereby without an additional lift station therefor.

12. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim 11, wherein said sealing and channel-forming die assembly further comprises in turn further comprising;

spring means in cooperative functional relationship with said second lift station for raising said lower web of packaging film at said impulse sealer above the level of said lower web of packaging film at said sealing die;

13. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim 12 wherein said packaging

film at said impulse sealer is lifted 5 mm above the level of said packaging films at said sealing die.

14. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim 11 wherein the zipper blank returns to ambient room temperature within one minute of impulse sealing.

15. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim 14 wherein the zipper blank returns to ambient room temperature within 20 seconds of impulse sealing.

16. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim 11 wherein said chiller further comprises a thermal medium maintained at a temperature of $65^{\circ} \pm 15^{\circ}$ F.

17. **(New)** A conversion kit for retrofitting a horizontal FFS packaging machine as described in Claim 16 wherein said thermal medium is recirculating cooling water.